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ABSTRACT

This study examined the effects of prosocial television programming and environmental conditions on positive interpersonal behavior of preschool children with their peers. Subjects, 3- to 5-year-olds from 13 Head Start classes, were assigned in class groups to one of four experimental treatments: (1) viewing neutral films and playing with irrelevant play materials (i.e., materials as devoid of prosocial content as possible), (2) viewing prosocial television and playing with irrelevant materials, (3) viewing prosocial television and playing with relevant materials (those with prosocial content), and (4) viewing prosocial television and playing with relevant materials under the supervision of specially trained teachers. Baseline data were collected on classroom organization and student-teacher affective relationship, and classes were categorized as "high structure" (high organization/low teacher warmth) or "low structure" (low organization/high teacher warmth). Following experimental treatments, observations of children's natural behavior in ongoing class activities were made using four observational categories: positive social interaction with peers, verbal interaction with peers, imaginative play, and nonverbal interaction with peers. Results indicate that the most consistent effects on positive social interaction with peers and imaginative play occurred in the condition that combined prosocial television, related play materials and teacher training and involvement. Low structure classrooms were the most conducive to obtaining positive effects on social behavior. (GO)

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THE EFFECTS OF PROSOCIAL TELEVISION AND ENVIRONMENTAL CONDITIONS ON PRESCHOOL CHILDREN

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The effects of prosocial television on the social behavior of young children has been the focus of the research program which my colleague, Aletha Stein and I have conducted over a five year period. In more recent years, we have become increasingly interested in the environmental conditions which might enhance the effects of prosocial television. The findings I shall present today concern the effects of prosocial television and environmental conditions on the positive interpersonal behavior of preschool children with peers. They represent one related group of findings from a larger study of natural behavior of children in early childhood education programs.[1]

This study deals with a two fold problem: to determine whether a television program designed to enhance personal, social and emotional development can have positive effects on children's behavior and to determine what elements in the environment may combine with exposure to such a program to produce the greatest positive effects.

Two components of the environment were studied: training of the teachers and aids to implement materials and concepts related to the programs, and arrangement of the physical environment to increase the likelihood that the child will use material from the program in his/her everyday behavior. The program selected for study was "Misterogers' Neighborhood." The group settings were urban Head Start programs for low income children.

Method

The subjects for the study ranged in age from 3 to 5 years. They were enrolled in Head Start programs for inner city children in five different centers. There was a total of 13 classes. Baseline data were collected over a three-month period. Whole classrooms were then assigned to one of four experimental treatments in an additive design: 1) neutral films with irrelevant play materials in the classroom 2) prosocial television with irrelevant play materials in the classroom 3) prosocial television with relevant play materials in the classroom or 4) prosocial television with teacher training for rehearsal activities and relevant play materials in the classroom. Three classes were assigned to each condition except the prosocial TV-Training condition to which four classes were assigned. A total of twenty "Misterogers'" or neutral films were shown to each class during the eight-week experimental period.

The relevant play materials were designed to provide cues and opportunity for rehearsing the prosocial television program content in individual or small group play. There were dramatic play materials, craft materials, puzzles, books, records and posters, many directly from "Misterogers' Neighborhood". The irrelevant materials were books, games and records that were as devoid of prosocial content as possible.

In the Prosocial TV-Training condition, the teachers and aids were given a twelve-hour course and supplied with additional curriculum materials to use in circle time activities. The course was designed to increase the teachers' awareness and recognition of prosocial behavior in children and to provide them with specific means of eliciting and reinforcing such behavior. The

curriculum materials included verbal labeling and rehersal of events and activities in the television programs and role-playing sequences based on the programs.

The major dependent variables were derived from observations of natural behavior in ongoing classroom activities. The general categories scored were similar to those used in an earlier study with preschool children (Friedrich and Stein, 1973; Stein and Friedrich, 1972). The positive interpersonal behaviors, which I should like to describe today, include broad categories of positive social interactions with peers, talking about feelings, attempts to understand others as well as imaginative play and role playing fantasy.

The first step in the analysis of the data was to determine what initial differences existed between classrooms during the baseline period. An analysis of variance revealed that classroom differences existed on most variables. While assignment of classes to treatment was partially successful in balancing classroom differences across treatments, wide differences were found on the organization of classes by the teachers and their methods of relating to children. Classes were rank ordered on observer ratings of teachers' affective quality, warmth of interaction with the children and the amount of classroom structure employed. In addition, classes were rank ordered on the basis of the childrens' participation in structured group learning activities. Classrooms were then stratified into two categories called high and low structure. The high structure classes had teachers who also rated higher on harsh disciplinary practices and lower on warmth. The low structure classes had teachers who were relatively warm and non-punitive.

A second means of controlling baseline differences among classrooms was

the use of analysis of covariance. The final analyses of treatment effects were analyses of covariance of sex x treatment x classroom structure with baseline scores as the covariate. Planned comparisons among conditions were performed by t tests when overall treatment effects were significant.

Results

Positive interpersonal behaviors with peers are represented by four variables which were retained following an examination of initial distributions and the intercorrelations among categories in the baseline period and a factor analysis. These variables are the focus of today's presentation. One--positive social interaction with peers--is a single variable. The others--verbal interaction with peers, imaginative play and nonverbal interaction with peers--are combinations of variables which correlated with one another, loaded on the same factor, and were conceptually related. The results of the analyses of covariance for the four variables appear in Table 1. The means for the baseline and experimental periods and adjusted means for the experimental period divided by treatment and classroom structure appear in Table 2.

Positive social interaction with peers. This single variable may best be described as a "catch all" category for agreeable or friendly interaction, accompanied by speech, with peers. The category taps a wide range of behaviors which involve sociable exchanges.

The main effect of treatment was significant. (See Table 1) Subgroup comparisons revealed that the Prosocial TV-Training condition was higher than all other treatments. (See Table 2 for means) Although all groups that saw "Misteroger's Neighborhood" accompanied by teacher training and related

curriculum materials were highest, classroom structure affected the pattern of results in other treatments. For the low structure classes, both the Prosocial TV-Training and the Prosocial TV-Materials conditons were higher than the other conditions. In the high structure classes, the Prosocial TV-Training condition was high, but the Prosocial TV-Materials treatment was lowest.

Verbal interaction with peers. This combined category included positive social interaction with peers as well as two additional positive verbal categories: attempts to call attention to one's positive accomplishments, giving reasons for one's own behavior, and attempting to understand others and express sympathy or comfort. There was a significant interaction of treatment x structure, reflecting a pattern that was similar to the single category, positive social interaction. The means appear in Table 2. For the low structure classes, the Prosocial TV-Training and Prosocial TV-Materials treatments were higher than the other groups. In the high structure classes, the predicted pattern of treatment differences did not appear. In fact, the Prosocial TV-Materials treatment was somewhat lower than the Prosocial TV only and Neutral treatments.

Imaginative play. The imaginative play category included imaginative play and role-playing fantasy that occurred alone and with other children. The most frequent subcategory within the combination was cooperative role-playing with peers. The means appear in Table 2. The main effect of treatment was significant. The pattern of means was consistent with the predicted ordering of treatments. The Prosocial TV-Training treatment was highest, followed by Prosocial TV-Materials, then Prosocial TV only treatment. The Neutral treatment was lowest. An examination of the baseline and experimental

means indicates an overall decrease in the Neutral treatment and increases in the groups exposed to prosocial television alone or with materials and training added.

Nonverbal interaction with peers. This combined variable included nonverbal social interaction with peers and playful aggression. Much of the behavior scored as playful aggression was nonverbal horseplay that was similar in nature to the behaviors scored as positive nonverbal interaction. Examples of the type of behavior scored are friendly facemaking, playful roughhousing, or mutual participation in motor activities. A distinction can be made between this category and those discussed previously. The behavior under consideration was characterized not only by the absence of a verbal component, but by its relative simplicity. There were no consistent effects of treatments on this variable. There was a significant three-way interaction of treatment x sex x structure. The means appear in Table 2. There were no differences among treatments for girls. For boys the differences among treatments formed no readily interpreted pattern.

Effects of Prosocial Television, Materials and Training

Prosocial Television by itself. In contrast to the earlier study (Friedrich and Stein, 1973; Stein and Friedrich, 1972) in which viewing alone was associated with a number of increases in prosocial behavior, the children in the prosocial television only condition did not differ from those in the neutral condition. There was a slight trend toward increased imaginative play.

Prosocial television and related freeplay materials. The importance of group structure is apparent in assessing the effect of prosocial television supplemented by freeplay materials. The high structure classroom assigned to

this treatment had the highest levels of teacher led instruction in the entire sample. There were no consistent behavioral changes in that class and those differences that did occur appear to be more a function of extreme differences in the baseline period rather than treatment effects.

In the low structure classrooms, however, the addition of materials designed to stimulate rehearsal of program content and to provide environmental cues related to the program was associated with prosocial behavior. In the experimental period, children in this condition compared to the neutral groups had high levels of positive interaction with peers and imaginative play.

Prosocial television and training. The most consistent and clearcut effects on positive social interaction with peers and imaginative play occured in the condition that combined prosocial television, related play materials and teacher training and involvement. Although the effects were greater in the low structure classes, the pattern was sufficiently pronounced in both high and low structure classes to produce overall treatment differences.

These findings support the prediction that prosocial television and related materials and teacher training can have a positive effect on the social behavior of young children. In addition, they suggest a number of variables that may be important in determining when viewing "Misterogers' Neighborhood" in group settings is likely to produce changes in children's behavior and when it is not likely to do so without environmental supplements. Let us first consider the major difference in findings between this study and the earlier study--prosocial television alone was not effective.

There are many striking differences in the characteristics of the children, the physical settings and the classroom procedures and educational philosophy

between the two studies. First, the population in the present study was urban, poor and ethnically mixed. The population in the earlier study was from a small city and surrounding rural areas. They were more economically advantaged and predominantly white. Second, the preschool settings differed in a number of ways: in the earlier study the physical settings in the university nursery school provided more space, facilities and materials both indoors and outdoors. In addition, viewing was conducted in smaller groups in quieter, less distracting settings. The teacher-child ratio was not only smaller, but the teachers were university instructors and the assistants were graduate and undergraduate students. Their training emphasized the importance of social behavior and teaching cognitive skills through individual and small group instruction. Despite the obvious differences, their procedures appear more similar to those in the low structure classrooms than in the high structure classrooms in the present study. The overall effects of prosocial television were more pronounced in the low structure classes and the pattern of effects were more similar to those in the earlier study. The differences between the urban high and low structure classrooms as well as the differences in findings between the two studies suggest that teacher differences in organizing classrooms and relating to children are an important determinant of the influence of prosocial television.

In this context, it is noteworthy that the classes in the Prosocial Television only condition were the most highly structured in the experimental period. The high levels of structure in these groups and teacher philosophy may have reduced the possibility that television would affect positive social behavior among peers.

In the present study, it was necessary to supplement prosocial television with materials or curriculum which related to the program in order to produce changes in prosocial behavior. Obviously, television is one of many influences in group behavior. In this study classes had been meeting on an everyday basis for several months before the experimental treatments were introduced. Stable patterns of interaction may have developed whereas in the earlier study the treatments were introduced a few weeks after classes were formed. In addition, it was not possible to control for classroom differences by assigning different treatments within classrooms, and there was more variability among teachers than in the university nursery school. Under these conditions, it appears that prosocial television must be enhanced with additional environmental support.

When freeplay rehearsal materals were added to prosocial television in the more conducive atmosphere--i.e. low structure--positive effects on social behavior were obtained.

The prediction that prosocial behavior will be most affected by the combination of television and active participation by the teachers and children in rehearsal activities is supported by the findings. The activities were designed to provide opportunities for generalization and extension of the program themes to everyday classroom experiences. They were also chosen to promote warm, positive interactions between children and adults. The training of the teachers was intended to sensitize them to the recognition and reinforcement of prosocial behavior. The combination of these features with television and independent play materials was apparently powerful enough to overcome the effects of existing group climates and to operate across the wide variety of

teacher methods, settings, and child characteristics represented in this sample.

One of the major purposes of this study was to determine whether prosocial television and related curriculum materials could be useful in daycare and educational programs for young children, especially the disadvantaged. The results seem to us to be most encouraging. As in much educational research, differences in teachers and classrooms were important. But, in many instances, the treatments were sufficiently robust to produce significant positive changes in interpersonal behavior. The teachers, children, and physical facilities were typical of urban early childhood education programs. Both television and curriculum materials were introduced as a part of ongoing classroom activity by the teachers. No additional personnel or space were required. It seems, therefore, that prosocial television and curriculum have potential value for enhancing the development of the whole child.

Footnotes

1. Friedrich, L. K. & Stein, A. H. A naturalistic study of the effects of prosocial television and environmental variables on the behavior of young children. Final Report, July 1975, The Pennsylvania State University, Grant No. OCD CB 340, Office of Child Development.

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Stein, A. H. & Friedrich, L. K. Television content and young children's behavior. In J. P. Murray, E. A. Rubinstein, & G. A. Comstock (Eds.) Television and social behavior. Vol. 2 Television and social learning. Washington: Government Printing Office, 1972. Pp 202-317.

Table 1

Analyses of Covariance (Baseline as Covariate) for Individual Observations

F ratios

Dependent Variable	Treatment (3, 124 df)	Sex (1,124 df)	Structure (1, 124 df)	Treatment x Sex (3, 124 df)	Treatment x Structure (3, 124 df)	Sex x Structure (1,124 df)	Treatment x Sex s Structure (3,124 df)
Positive social interaction with peers	3.81*	.01	11.84**	.17	1.37	.88	.41
Verbal interaction with peers	1.26	.08	5.59*	.43	3.73*	.67	.68
Imaginative play	3.72*	.76	.38	.33	1.28	.97	.90
Non-verbal interaction with peers	.84	2.78	.69	.08	1.60	.52	3.45

* $p < .05$
** $p < .01$

Table 2

Means for Baseline and Experimental Periods and Adjusted Means for Experimental Period for Individual Observations Divided by Treatment and Classroom Structure

Variable	Structure	Time Period	Means				Adjusted Means			
			Neutral	Pro-social TV only	Pro-social TV-Materials	Pro-social TV Training	Neutral	Pro-social TV only	Pro-social TV-Materials	Pro-social TV Training
Positive social interaction with peers	High	Base	.015	.028	.014	.031				
		Exp	.036	.042	.025	.053	$.039^{ab}$	$.038^{ab}$	$.029^{a}$	$.049^{b}$
	Low	Base	.017	.011	.020	.021				
		Exp	.015	.014	.029	.034	$.017^{a}$	$.018^{ab}$	$.030^{b}$	$.035^{b}$
	All	Base	.016	.020	.017	.026				
		Exp	.025	.028	.027	.044	$.028^{a}$	$.028^{a}$	$.030^{a}$	$.042^{b}$
Verbal interaction with peers	High	Base	.039	.067	.023	.064				
		Exp	.079	.094	.037	.086	$.088^{a}$	$.076^{ab}$	$.050^{b}$	$.078^{a}$
	Low	Base	.034	.027	.046	.037				
		Exp	.042	.040	.070	.063	$.047^{a}$	$.049^{ab}$	$.069^{b}$	$.069^{b}$
	All	Base	.037	.047	.035	.051				
		Exp	.061	.067	.054	.075	.068	.061	.060	.073
Imaginative play	High	Base	.022	.033	.016	.052				
		Exp	.029	.032	.022	.051	.025	.034	.029	.050
	Low	Base	.038	.020	.062	.045				
		Exp	.017	.032	.054	.045	.018	.038	.051	.045
	All	Base	.030	.027	.036	.049				
		Exp	.023	.032	.038	.048	$.022^{a}$	$.036^{ab}$	$.040^{b}$	$.048^{b}$
Nonverbal interaction with peers	High	Base	.018	.021	.021	.025				
		Exp	.024	.033	.029	.031	.022	.035	.027	.032
	Low	Base	.030	.052	.023	.041				
		Exp	.038	.039	.022	.033	.041	.033	.024	.031
	All	Base	.024	.036	.022	.033				
		Exp	.031	.036	.025	.032	.031	.034	.025	.031

Note. Within any row, means with the same superscript are not significantly different.